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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/744,441	05/11/2001	Joachim Spiess	0147-0221P	5077

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EXAMINER	
ROMEO, DAVID S	

ART UNIT	PAPER NUMBER
1647	

DATE MAILED: 04/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/744,441	SPIESS ET AL.	
	Examiner	Art Unit	
	David S Romeo	1647	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) *19-23,25,26,30,32 and 33* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18,24,27-29 and 31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-33* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *0101*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Applicant's election with traverse of group I, claim(s) 1-18, 24, 27-29, 31, in the paper filed 01/02/2004 is acknowledged. The traversal is on the ground(s) that the IPER indicates that unity of invention is present, that the examiner's logic is faulty, and that significant differences exist between the present invention and astressin. This is not found persuasive because the present examiner in the present application is not bound by any indication of any previous searching authority in any previous application when considering unity of invention or patentability in the present application. With regard to the examiner's logic and differences between the present invention and astressin, although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims.

Applicant's election with traverse of the species wherein Xaa_1 = D-Phe and Xaa_2 = His in the paper filed 01/02/2004 is acknowledged. The traversal is on the ground(s) that the IPER indicates that unity of invention is present, that the examiner uses faulty logic, and that significant differences exist between the present invention and astressin. This is not found persuasive because the present examiner in the present application is not bound by any indication of any previous searching authority in any previous application when considering unity of invention in the present application. With regard to the examiner's logic and differences between the present invention and astressin, although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims.

The requirement is still deemed proper and is therefore made FINAL.

Claims 19-23, 25, 26, 30, 32, 33 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the paper filed 01/02/2004.

Claims 1-18, 24, 27-29, 31 are being examined to the extent that they read upon the elected invention and species.

How the examiner construes the claims:

Claim 1 recites an "antagonist of the ligand of the Corticotropin-Releasing Factor Receptor, type 2 (CRFR2) lacking the 8 to 10 N-terminal amino acids of native sauvagine." The specification intends the term "ligand" to encompass any molecule capable of specifically binding to the CRFR2, including naturally occurring, endogenous ligands or CRFR2, or any compound capable of binding and activating CRFR2 (page 4, full paragraph 1). Accordingly, any compound capable of binding and activating CRFR2 is a "ligand of the Corticotropin-Releasing Factor Receptor, type 2 (CRFR2)." The "antagonist of the ligand" must also lack "the 8 to 10 N-terminal amino acids of native sauvagine." Accordingly, any compound lacking the 8 to 10 N-terminal amino acids of native sauvagine and that is capable of binding and activating CRFR2 is a "ligand of the Corticotropin-Releasing Factor Receptor, type 2 (CRFR2)." The claims do not require that the claimed antagonist antagonize any activity of the ligand on CRFR2. Accordingly, the claims encompass any and/or all antagonist that antagonize any and/or all activities of any compound capable of binding and activating CRFR2, whether or not

the activity antagonized is a result of binding of the ligand to CRFR2 or to any other compound. According to Lovenberg (U), sauvagine, urotensin, rat or human CRF, and ovine CRF are able to stimulate CRFR2-mediated adenylate cyclase activity in a dose-dependent manner (Abstract). See also Lovenberg (3, cited by Applicants) Table 3. Accordingly, the claims encompass at least any and/or all antagonist that antagonize any and/or all activities of sauvagine, urotensin, rat or human CRF, and ovine CRF.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1, 2, 14-18, 24, 27-29, 31 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims, as written, do not sufficiently distinguish over compounds as they exist naturally because the claims do not particularly point out any non-naturally occurring differences between the claimed products and the naturally occurring products. In the absence of the hand of man, the naturally occurring products are considered non-statutory subject matter. See Diamond v. Chakrabarty, 447 U.S. 303, 206 USPQ 193 (1980). The claims should be amended to indicate the hand of the inventor, e.g., by insertion of "Isolated" or 'Purified." See MPEP 2105.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 2, 14-18, 24, 27-29, 31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The examiner has construed the claims, above. Briefly, the claims encompass the genus of any and/or all compounds that antagonize any and/or all activities of any compound capable of binding and activating CRFR2, whether or not the activity antagonized is a result of binding of the ligand to CRFR2 or to any other compound. The specification and claim do not indicate what distinguishing attributes are shared by the members of the genus. Other that specifying what the genus structurally lacks, there are no structural limitations to the compounds that antagonize or to the compounds antagonized. There are no functional limitations to the activity antagonized. Thus, the scope of the claim includes numerous structural variants, and the genus is highly variant. Structural features that could distinguish compounds in the genus are missing from the disclosure. No common structural attributes identify the members of the genus. The general knowledge and level of skill in the art do not supplement the omitted description because specific, not general, guidance is what is needed. Since the disclosure fails to

describe the common attributes or characteristics that identify members of the genus, and because the genus is highly variant, one of skill in the art would reasonably conclude that the disclosure fails to provide a representative number of species to describe the genus. Thus, applicant was not in possession of the claimed genus.

Claims 1-18, 24, 27-29, 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims recite "the ligand of the Corticotropin-Releasing Factor Receptor, type 2 (CRFR2)." There is a lack of antecedent basis in the specification for "the ligand." According to Lovenberg (U), sauvagine, urotensin, rat or human CRF, and ovine CRF are able to stimulate CRFR2-mediated adenylate cyclase activity in a dose-dependent manner (Abstract). See also Lovenberg (3, cited by Applicants) Table 3. Thus, at least sauvagine, urotensin, rat or human CRF, and ovine CRF are ligands of CRFR2. The specification intends the term "ligand" to encompass any molecule capable of specifically binding to the CRFR2, including naturally occurring, endogenous ligands or CRFR2, or any compound capable of binding and activating CRFR2 (page 4, full paragraph 1). Thus, any compound capable of binding and activating CRFR2 is a ligand of CRFR2. Thus, the intended scope of the claim is unclear because there is no one, single CRFR2 ligand, as implied by the term "the ligand." The definition of "ligand" disclosed in the specification does not correspond in scope to the apparent scope of "the ligand" in the claims. Furthermore, Rühmann (6, cited by Applicants) speculates that a sauvagine-like peptide not yet found in mammals serves as CRFR2 ligand (page 15267, right column,

last full paragraph). Since the metes and bounds of "the ligand" cannot be ascertained, the claims are indefinite. The metes and bounds are not clearly set forth.

Claims 14-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 14-18 are ambiguous over the recitation of "11 N-terminal amino acid" because it is unclear if the 11^{th} amino acid or if the 11 N-terminal amino acids is intended. The metes and bounds are not clearly set forth.

Claim 28 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 28 recites a "diagnostic composition," which implies a diagnosis. However, the claim does not set forth any diagnosis and it is unclear what is intended to be diagnosed. Because the instant specification does not identify that material element or combination of elements which is unique to, and, therefore, definitive of a diagnostic composition" an artisan cannot determine what additional or material limitations are placed upon a claim by the presence of this element. The metes and bounds are not clearly set forth.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 24, 27-29, 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Potter (A).

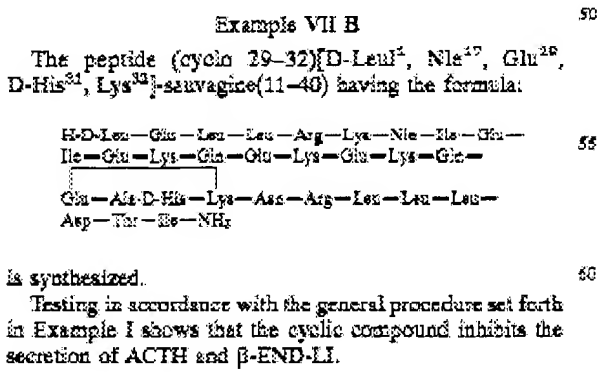
The examiner has construed the claims, above.

Potter discloses CRF-BP (column 11, lines 26-35). CRF-BP can be used to bind to and inactivate CRF (column 2, lines 27-28). The 8 to 10 or 11 N-terminal amino acids of Svg are encompassed by the following sequence: Glx-Gly-Pro-Pro-Ile-Ser-Ile-Asp-Leu-Ser-Leu (Figure 1 of the present application). CRF-BP lacks the 8 to 10 or 11 N-terminal amino acids of Svg, as evidenced by Potter's SEQ ID NO: 1 or SEQ ID NO: 3. Accordingly, Potter discloses an antagonist of the ligand of the Corticotropin-Releasing Factor Receptor, type 2 (CRFR2) lacking the 8 to 10 or 11 N-terminal amino acids of native sauvagine. Potter also discloses pharmaceutical (column 30, line 22, through column 31, line 4) and diagnostic (column 20, lines 58-64) compositions and a kit (column 20, lines 31-39) comprising CRF-BP. Potter also discloses recombinant rat and human CRF-BPs (column 2, full paragraph 1). In any case, claim 24 is drafted in the product-by-process format. However, the recitation of a process limitation in claim 24 is not viewed as positively limiting the claimed product absent a showing that the process imparts a novel or unexpected property to the claimed product, as it is assumed that equivalent products are obtainable by multiple routes.

Conclusion

No claims are allowable. Claims 3-13 are free of the prior art of record.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Rivier discloses:



Example VII B

The peptide (cyclo 29–32)[D-Leu[4], Nle[17], Glu[28], D-His[31], Lys[32]]-sauvagine(11–40) having the formula:

H-D-Leu—Glu—Leu—Leu—Arg—Lys—Nle—Ile—Glu—
Ile—Glu—Lys—Gln—Glu—Lys—Glu—Lys—Glu—
Glu—Ala-D-His—Lys—Asn—Arg—Leu—Leu—Leu—
Asp—Thr—Ile—NH2

is synthesized.

Testing in accordance with the general procedure set forth in Example I shows that the cyclic compound inhibits the secretion of ACTH and β-END-LI.

The following is a comparison of Rivier's peptide with SEQ ID NO: 1 of the present application (Qy = SEQ ID NO: 1 of the present application) (Db = Rivier):

```
  Query Match             77.8%;  Score 105;  DB 17;  Length 30;
  Best Local Similarity   80.0%;  Pred. No. 2.3e-06;
  Matches   24;  Conservative    3;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          1 XXLLRKMIEIEKQEKEKQQAANNRLLLDTI 30
              ::|||| |||||||||||:|  ||||||||
Db          1 LELLRKXIEIEKQEKEKQEAHKNRLLLDTI 30.
```

ANY INQUIRY CONCERNING THIS COMMUNICATION OR EARLIER COMMUNICATIONS FROM THE EXAMINER SHOULD BE DIRECTED TO DAVID S. ROMEO WHOSE TELEPHONE NUMBER IS (571) 272-0890. THE EXAMINER CAN NORMALLY BE REACHED ON MONDAY THROUGH FRIDAY FROM 7:30 A.M. TO 4:00 P.M. IF ATTEMPTS TO REACH THE EXAMINER BY TELEPHONE ARE UNSUCCESSFUL, THE EXAMINER'S SUPERVISOR, GARY KUNZ, CAN BE REACHED ON (571) 272-0887.

IF SUBMITTING OFFICIAL CORRESPONDENCE BY FAX, APPLICANTS ARE ENCOURAGED TO SUBMIT OFFICIAL CORRESPONDENCE TO THE FOLLOWING TC 1600 BEFORE AND AFTER FINAL RIGHTFAX NUMBERS:

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CUSTOMERS ARE ALSO ADVISED TO USE CERTIFICATE OF FACSIMILE PROCEDURES WHEN SUBMITTING A REPLY TO A NON-FINAL OR FINAL OFFICE ACTION BY FACSIMILE (SEE 37 CFR 1.6 AND 1.8).

FAXED DRAFT OR INFORMAL COMMUNICATIONS SHOULD BE DIRECTED TO THE EXAMINER AT (571) 273-0890.

ANY INQUIRY OF A GENERAL NATURE OR RELATING TO THE STATUS OF THIS APPLICATION OR PROCEEDING SHOULD BE DIRECTED TO THE GROUP RECEPTIONIST WHOSE TELEPHONE NUMBER IS (703) 308-0196.

DAVID ROMEO
PRIMARY EXAMINER
ART UNIT 1647

DSR
MARCH 30, 2004